

## IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A process for the formation of nanostructures that includes:

~~the formation of~~ forming nucleation sites (4), in volume, by the irradiation of a substrate (2) by means of a beam of ~~silicon or germanium~~ ions, by localised deposition of atoms suitable for the formation of such sites, and

~~the growth of~~ growing by chemical vapor deposition nanostructures (8) on the nucleation sites thus formed.

Claim 2 (Canceled).

Claim 3 (Currently Amended): [[A]] The process according to claim 1 ~~or 2, with~~ wherein the substrate is in a dielectric material.

Claim 4 (Currently Amended): [[A]] The process according to claim 3, ~~with~~ wherein the substrate ~~being~~ is a silicon dioxide ( $\text{SiO}_2$ ) or an aluminium oxide ( $\text{Al}_2\text{O}_3$ ) or a silicon nitride ( $\text{SiN}_x$ ).

Claim 5 (Canceled).

Claim 6 (Currently Amended): [[A]] The process according to claim [[5]] 1, ~~with the~~ said semiconductor material being silicon or germanium.

Claim 7 (Currently Amended): ~~[[A]] The process according to claim 6, with the structures~~ said nanostructures formed being created respectively by means of dichlorosilane or germane, as a gaseous precursor.

Claim 8 (Currently Amended): ~~[[A]] The process according to claim [[5]] 1, with the semiconductor structure formed~~ said nanostructure being in a semiconductor material of the column IV type.

Claim 9 (Currently Amended): ~~[[A]] The process according to claim 8, with the semiconductor structure formed~~ said nanostructure being in silicon carbide (SiC) or in Diamond C.

Claim 10 (Currently Amended): ~~[[A]] The process according to claim [[5]] 1, with the semiconductor structure~~ said nanostructure being in a III - V type semiconductor material.

Claim 11 (Currently Amended): ~~[[A]] The process according to claim [[5]] 1, with the semiconductor structure~~ said nanostructure being in gallium arsenide (GaAs), or in gallium nitride (GaN), or in gallium phosphide (GaP).

Claim 12 (Canceled).

Claim 13 (Currently Amended): ~~[[A]] The process according to one of claims claim 1 to 12, with the~~ said nanostructures formed being in 3 dimensions.

Claim 14 (Currently Amended): ~~[[A]] The process according to one of claims claim~~  
~~1 to 13, with the~~ said nanostructures ~~formed~~ being of maximum diameter (D) between 1nm  
and 15nm.

Claim 15 (Currently Amended): ~~[[A]] The process according to one of claims claim~~  
~~1 to 14, with the~~ nanostructures being formed at a density between  $10^8/\text{cm}^2$  and  $10^{13}/\text{cm}^2$ .

Claim 16 (New): The process according to claim 1, wherein said beam of ions is a  
beam of silicon or germanium ions.

Claim 17 (New): A process for the formation of 3 dimensional nanostructures in a  
semiconductor material that includes:

forming nucleation sites, in volume, by the irradiation of a substrate, by localized  
deposition of atoms suitable for the formation of such sites, and

growing by chemical vapor deposition of nanostructures on the nucleation sites thus  
formed.

Claim 18 (New): The process according to claim 17, wherein said substrate is in a  
dielectric material.

Claim 19 (New): The process according to claim 17, wherein said semiconductor  
material is silicon or germanium.

Claim 20 (New): The process according to claim 17, wherein said nanostructures are  
created respectively by means of dichlorosilane or germane, as a gaseous precursor.

Claim 21 (New): The process according to claim 17, wherein said nanostructures are in a semiconductor material of the column IV type or are in a III - V type semiconductor material.

Claim 22 (New): The process according to claim 17, wherein said nanostructures are in gallium arsenide (GaAs), or in gallium nitride (GaN), or in gallium phosphide (GaP).

Claim 23 (New): The process according to claim 17, wherein said nanostructures are of maximum diameter (D) between 1nm and 15nm.

Claim 24 (New): The process according to claim 17, wherein said nanostructures are formed at a density between  $10^8/\text{cm}^2$  and  $10^{13}/\text{cm}^2$ .

Claim 25 (New): The process according to claim 17, wherein said substrate is irradiated by a beam of silicon or germanium ions.